

Appl. No.: 10/030,933
Amendment dated February 23, 2006
Reply to Office action of September 23, 2005

Please amend the claims as requested below.

In the Claims:

Please amend pending claims 38-48 and 53-60, as shown in the listing of claims below. Please add new claims 61-78 as shown in the listing of claims below. Claims 49-52 are cancelled, without prejudice. This Listing of Claims is a complete listing of all claims ever presented in the application and replaces all prior versions, and listings, of the claims in the instant application:

Listing of Claims:

Claims 1-37 (Cancelled):

Claim 38 (Currently amended): A process for preparing a three-dimensional crosslinker-free, polysaccharide biopolymer composition, said process comprising:

- (a) providing an aqueous mixture ~~consisting essentially comprising~~ 0.1 to 15.0% by weight, based on the aqueous mixture, of a polysaccharide biopolymer, wherein the aqueous mixture has and adjusting its concentration, as needed, to obtain a viscosity of from 1,000 mPas to 100,000 mPas and a , wherein the resulting aqueous mixture has an acidic or basic pH value of from 1 to 12;
- (b) adjusting the acidic or alkaline pH of the aqueous mixture up or down, respectively, to [[a]] an alkaline or acidic value of about 4.0 to 8.5 to form a crosslinker-free, polysaccharide biopolymer composition comprised of physically interlinked fibers; and
- (c) dewatering the crosslinker-free, polysaccharide biopolymer composition to form a crosslinker-free three-dimensional structure comprised of physically interlinked polysaccharide biopolymer fibers.

Claim 39 (Previously presented): The process according to claim 38, wherein the aqueous mixture is present in a state selected from the group consisting of solutions and homogenous suspensions.

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Claim 40 (Currently amended): The process according to claim 38, wherein the polysaccharide biopolymer is present in an amount of from ~~0.1 to 15%~~ 0.5 to 10% by weight, based on the aqueous mixture.

Claim 41 (Previously presented): The process according to claim 38, wherein the aqueous mixture has a pH value of from 4 to 10.

Claim 42 (Currently amended): The process according to claim 38, wherein, in step (a), the concentration of the aqueous mixture is adjusted so that it has a viscosity of from 10,000 mPas to 40,000 mPas.

Claim 43 (Currently amended): The process according to claim 38, wherein, in step (b), the pH is adjusted up by the addition of an aqueous solution selected from the group consisting of aqueous solutions of hydrogen carbonates, carbonates, hydrogen phosphates, hydroxides of alkali metals, alkaline earth metals, ammonia and organic nitrogen bases, and combinations thereof.

Claim 44 (Currently amended): The process according to claim 38, wherein, in step (b), the pH is adjusted up by the addition of an aqueous solution of sodium hydrogen carbonate.

Claim 45 (Currently amended): The process according to claim 38, wherein, in step (b), the pH is adjusted down by the addition of an aqueous solution selected from the group consisting of aqueous solutions of mineral acids, organic carboxylic acids, and combinations thereof.

Claim 46 (Currently amended): The process according to claim 38, further comprising, after adjusting the pH in step (b), allowing the aqueous mixture containing the crosslinker-free, polysaccharide biopolymer composition the crosslinker-free, polysaccharide biopolymer composition to stand, without mixing, for 10 minutes to 10 hours.

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Claim 47 (Previously presented): The process according to claim 38, wherein a freezing step precedes the dewatering step.

Claim 48 (Previously presented): The process according to claim 38, further comprising combining 5 to 10% by weight of one or more auxiliaries or additives with the aqueous mixture prior to dewatering.

Claims 49-52 (Cancelled)

Claim 53 (Currently amended): A process for preparing a crosslinker-free, polysaccharide biopolymer composition, said process comprising:

- (a) providing an aqueous mixture ~~consisting essentially of~~ comprising a polysaccharide biopolymer[[,]] ~~wherein the aqueous mixture and adjusting its concentration, as needed, so that it has a viscosity of from 1,000 mPas to 100,000 mPas and a~~ wherein the resulting aqueous mixture has an alkaline or acidic pH value of from 1 to 12;
- (b) adjusting the acidic or alkaline pH of the aqueous mixture up or down, respectively, to [[a]] an alkaline or acidic value ~~of about 4.0 to 8.5~~ to form a crosslinker-free, polysaccharide biopolymer composition comprised of physically interlinked fibers;
- (c) allowing aqueous mixture containing the crosslinker-free, polysaccharide biopolymer composition to stand, without mixing, for 10 minutes to 10 hours, and
- (d) dewatering the crosslinker-free, polysaccharide biopolymer composition to form a crosslinker-free, polysaccharide biopolymer three-dimensional structure.

Claim 54 (Currently amended): The process according to claim 53, further comprising, in step (a), adding 5 to 10% by weight of additives selected from the group consisting of polyols, lignin, polyose, pectin, cellulose and synthetic polyester and polyamide fibers and adjusting the viscosity to from 10,000 mPas to 40,000 mPas.

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Claim 55 (Previously presented): The process according to claim 53, further comprising a step of freezing prior to the dewatering of step (d).

Claim 56 (Currently amended): A three dimensional crosslinker-free, polysaccharide biopolymer composition prepared by the process according to claim 38.

Claim 57 (Currently amended): A crosslinker-free, polysaccharide biopolymer composition prepared by the process according to claim [[52]] 53.

Claim 58 (Currently amended): A medicament or medical product comprising a crosslinker-free, polysaccharide biopolymer composition prepared by the process according to claim [[53]] 38.

Claim 59 (Currently amended): A cosmetic preparation comprising a three-dimensional crosslinker-free, polysaccharide biopolymer composition prepared by the process according to claim [[53]] 38.

Claim 60 (Currently amended): A food additive comprising a crosslinker-free, polysaccharide biopolymer composition prepared by the process according to claim [[53]] 38.

Claim 61 (New): A process for preparing a three-dimensional crosslinker-free, polysaccharide biopolymer composition, said process comprising:

- (a) providing an aqueous polysaccharide mixture comprising a polysaccharide biopolymer having a polyelectrolyte character and an aqueous solvent comprising a mineral or organic carboxylic acid where the selected polysaccharide biopolymer is cationic or an inorganic or nitrogen base where the selected polysaccharide biopolymer is anionic, wherein the aqueous polysaccharide mixture has a viscosity of from 1,000 mPas to 100,000 mPas and a pH value of from 1 to 12;
- (b) adjusting the acidic or alkaline pH of the aqueous polysaccharide mixture up or down, respectively, to an alkaline or acidic value to form a crosslinker-free,

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polysaccharide biopolymer composition comprised of physically interlinked fibers;
and

(c) dewatering the crosslinker-free, polysaccharide biopolymer composition to form a crosslinker-free three-dimensional structure comprised of physically interlinked polysaccharide biopolymer fibers.

Claim 62 (New): The process according to claim 61, wherein the polysaccharide biopolymer having polyelectrolyte character is selected from the group consisting of inulin, mannans, galactans, xylans, chitin, chitosan, cellulose, pectins, alginates, carrageenes, agar-agar, carob seed grain and derivatives thereof.

Claim 63 (New): The process according to claim 61, wherein the mineral or organic carboxylic acid of the aqueous solvent is selected from the group consisting of hydrochloric acid, phosphoric acid, nitric acid, and sulfuric acid as mineral acids; and formic acid, lactic acid, propionic acid, maleic acid, pyruvic acid, glycolic acid, succinic acid, acetic acid, citric acid, tartaric acid and adipic acid as organic carboxylic acids.

Claim 64 (New): The process according to claim 61, wherein the mineral or organic carboxylic acid of the aqueous solvent is selected from the group consisting of hydrochloric acid, lactic acid and glycolic acid.

Claim 65 (New): The process according to claim 61, wherein the inorganic or nitrogen base of the aqueous solvent is selected from the group consisting of aqueous solutions of carbonates, hydrogencarbonates, hydrogen phosphates and hydroxides of alkali metal and alkaline earth metals, ammonia as inorganic bases; and triethylamine and triethanolamine as nitrogen organic bases.

Claim 66 (New): The process according to claim 61, wherein the aqueous polysaccharide mixture provided in step (a) is present as a solution or a homogeneous suspension.

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Claim 67 (New): The process according to claim 61, wherein the polysaccharide biopolymer is present in an amount of from 0.1 to 15% by weight, based on the aqueous polysaccharide mixture.

Claim 68 (New): The process according to claim 61, wherein the aqueous polysaccharide mixture provided in step (a) has a pH value of from 4 to 10.

Claim 69 (New): The process according to claim 61, wherein the aqueous polysaccharide mixture provided in step (a) has a viscosity of from 10,000 mPas to 40,000 mPas.

Claim 70 (New): The process according to claim 61, wherein the aqueous polysaccharide mixture of step (a) further includes additives selected from the group consisting of polyols, lignin, polyose, pectin, cellulose and synthetic polyester and polyamide fibers.

Claim 71 (New): The process according to claim 61, wherein, in step (b), the pH is adjusted up to an alkaline value by the addition of an aqueous alkaline solution selected from the group consisting of aqueous solutions of hydrogen carbonates, carbonates, hydrogen phosphates, hydroxides of alkali metals, alkaline earth metals, ammonia and organic nitrogen bases, and combinations thereof.

Claim 72 (New): The process according to claim 61, wherein, in step (b), the pH is adjusted up to an alkaline value by the addition of an aqueous alkaline solution of sodium hydrogen carbonate.

Claim 73 (New): The process according to claim 61, wherein, in step (b), the pH is adjusted down to an acid value by the addition of an aqueous acid solution selected from the group consisting of aqueous solutions of hydrochloric acid, phosphoric acid, nitric acid, and sulfuric acid as mineral acids; and formic acid, lactic acid, propionic acid, maleic acid, pyruvic acid, glycolic acid, succinic acid, acetic acid, citric acid, tartaric acid and adipic acid as organic carboxylic acids; and combinations thereof.

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Claim 74 (New): The process according to claim 73, wherein the aqueous acid solution is selected from the group consisting of hydrochloric acid, lactic acid and glycolic acid.

Claim 75 (New): the process according to claim 61, wherein, in step (b), the amount of base or acid used to adjust the pH up or down to the amount of acid or base in the aqueous solvent, respectively, is 0.8-1.2 mol : 1 mol.

Claim 76 (New): The process according to claim 61, further comprising, after adjusting the pH up or down in step (b), allowing the aqueous mixture containing the crosslinker-free polysaccharide biopolymer composition to stand, without mixing, for 10 minutes to 10 hours.

Claim 77 (New): A medicament or medical product comprising a crosslinker-free, polysaccharide biopolymer composition prepared by the process according to claim 61.

Claim 78 (New): A cosmetic preparation comprising a three-dimensional crosslinker-free, polysaccharide biopolymer composition prepared by the process according to claim 61.